

L12 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1980:569113 CAPLUS
 DOCUMENT NUMBER: 93:169113
 TITLE: Light stabilizers for organic polymers
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Jpn. Kokai Tokkyo Koho, 18 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------|------|----------|-----------------|----------|
| JP 55049355 | A2 | 19800409 | JP 1979-124688 | 19790927 |
| JP 01000948 | B4 | 19890110 | | |
| US 4289686 | A | 19810915 | US 1979-76106 | 19790917 |
| EP 10516 | A1 | 19800430 | EP 1979-810102 | 19790921 |
| EP 10516 | B1 | 19820714 | | |
| R: BE, CH, DE, FR, GB, IT, NL | | | | |
| US 4481315 | A | 19841106 | US 1983-470742 | 19830228 |
| PRIORITY APPLN. INFO.: | | | CH 1978-10088 | 19780927 |
| | | | US 1979-76106 | 19790917 |
| | | | US 1981-266873 | 19810526 |

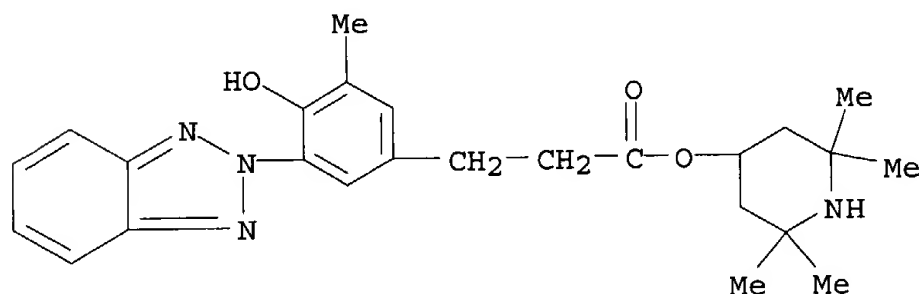
AB Light stabilizers were prepared from benzotriazole or 2-hydroxybenzophenone derivs. and polyalkylated piperidine derivs. Thus, 2-(2-hydroxy-5- β -methoxycarbonyl-ethyl-3-methylphenyl)benzotriazole [74734-21-7] 46.7, 4-hydroxy-2,2,6,6-tetramethylpiperidine [2403-88-5] 23.6, and NaOMe 9 g were heated in 300 mL xylene under N at 130-5° for 20 h, with removal of MeOH, to prepare 2-[2-hydroxy-3-methyl-5-[β -(2,2,6,6-tetramethyl-4-piperidinyloxycarbonyl)ethyl]phenyl]benzotriazole [74734-22-8].

IT 74734-22-8

RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (light stabilizers, for polymers)

RN 74734-22-8 CAPLUS

CN Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-4-hydroxy-5-methyl-,
 2,2,6,6-tetramethyl-4-piperidiny ester (9CI) (CA INDEX NAME)



L12 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1991:63535 CAPLUS
 DOCUMENT NUMBER: 114:63535
 TITLE: Light-stabilizers for polymers containing hindered amine and light-absorbing groups
 INVENTOR(S): Ravichandran, Ramanathan; Galbo, James P.
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Eur. Pat. Appl., 26 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------|------|----------|-----------------|----------|
| EP 389427 | A2 | 19900926 | EP 1990-810195 | 19900313 |
| EP 389427 | A3 | 19911127 | | |
| EP 389427 | B1 | 19940427 | | |
| R: DE, FR, GB, IT | | | | |
| US 5021478 | A | 19910604 | US 1990-479880 | 19900214 |
| CA 2012503 | AA | 19900921 | CA 1990-2012503 | 19900319 |
| CA 2012503 | C | 20000118 | | |
| JP 02300168 | A2 | 19901212 | JP 1990-73181 | 19900322 |
| JP 2860589 | B2 | 19990224 | | |

PRIORITY APPLN. INFO.: US 1989-326848 A 19890321

OTHER SOURCE(S): MARPAT 114:63535

AB The title compds. are less basic than other stabilizers and so do not related curing. Refluxing Me 3-benzotriazol-2-yl-5-tert-butyl-4-hydroxyhydrocinnamate 30.0 and 4-hydroxy-1-methoxy-2,2,6,6-tetramethylpiperidine 19.1 g in xylene with distillation of H₂O, cooling to 100°, adding LiNH₂, and refluxing 16 h with distillation of MeOH gave 24.5 g 1-methoxy-2,2,6,6-tetramethylpiperidin-4-yl 3-benzotriazol-2-yl-5-tert-butyl-4-hydroxyhydrocinnamate.

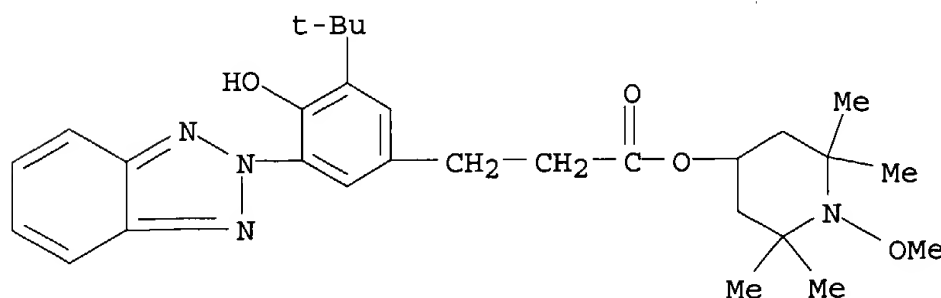
IT 131806-85-4P 131806-86-5P 131806-87-6P
 131806-88-7P

RL: PREP (Preparation)

(light stabilizers for polymers, manufacture of)

RN 131806-85-4 CAPLUS

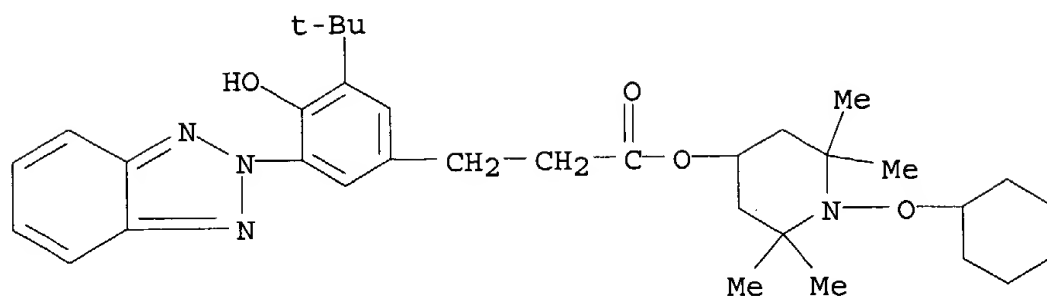
CN Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxy-, 1-methoxy-2,2,6,6-tetramethyl-4-piperidinyl ester (9CI) (CA INDEX NAME)



RN 131806-86-5 CAPLUS

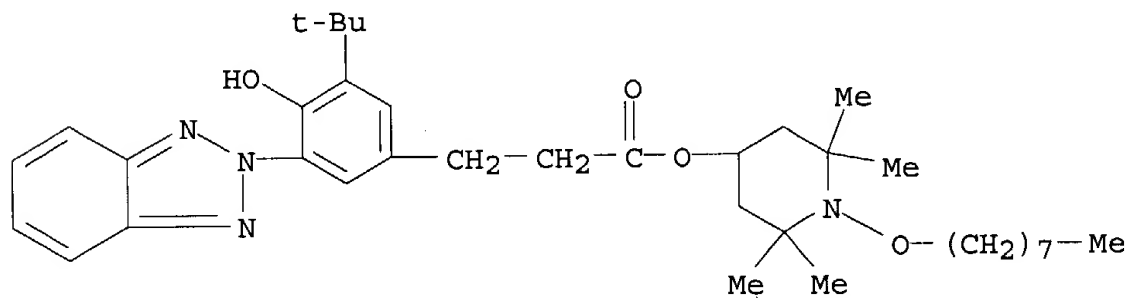
CN Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxy-, 1-(cyclohexyloxy)-2,2,6,6-tetramethyl-4-piperidinyl ester (9CI)

(CA INDEX NAME)



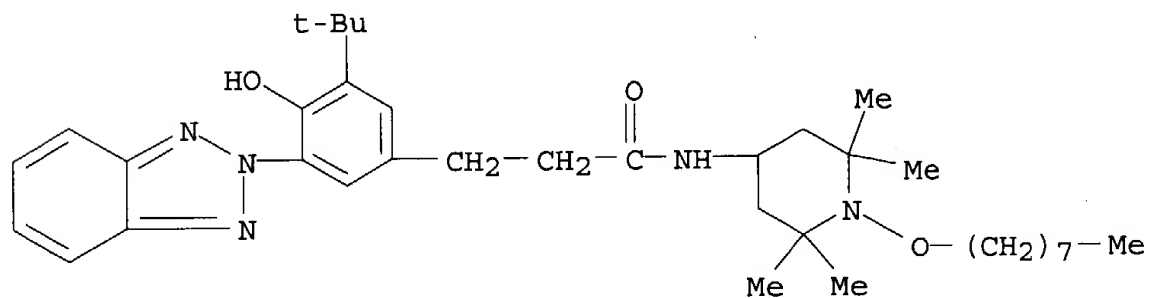
RN 131806-87-6 CAPLUS

CN Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxy-, 2,2,6,6-tetramethyl-1-(octyloxy)-4-piperidiny ester (9CI) (CA INDEX NAME)



RN 131806-88-7 CAPLUS

CN Benzenepropanamide, 3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydroxy-N-[2,2,6,6-tetramethyl-1-(octyloxy)-4-piperidiny]- (9CI) (CA INDEX NAME)



L12 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1981:141312 CAPLUS
 DOCUMENT NUMBER: 94:141312
 TITLE: Light stabilizers for coatings
 PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------------------------|------|----------|-----------------|----------|
| JP 55112278 | A2 | 19800829 | JP 1980-17701 | 19800215 |
| JP 02000389 | B4 | 19900108 | | |
| US 4314933 | A | 19820209 | US 1980-118253 | 19800204 |
| EP 16723 | A1 | 19801001 | EP 1980-810049 | 19800211 |
| EP 16723 | B1 | 19830601 | | |
| EP 16723 | B2 | 19870916 | | |
| R: BE, CH, DE, FR, GB, IT, NL | | | | |
| CA 1148421 | A1 | 19830621 | CA 1980-345576 | 19800213 |
| BR 8000935 | A | 19801029 | BR 1980-935 | 19800214 |
| | | | CH 1979-1484 | 19790215 |

PRIORITY APPLN. INFO.:

AB Substrates are coated with pigment-containing acrylic, alkyd, or polyester coatings with or without melamine-formaldehyde copolymer [9003-08-1], and top-coated with a similar composition without pigments containing 2,2,6,6-tetraalkylpiperidine derivs. and cured to form weathering-resistant coatings. Thus, an Al sheet was sealed, coated with a composition of Alftalat AC 451(alkyd resin) 51.56, Maprenal MF 590 20.7, TiO₂ 27.6, and C. I. Pigment Yellow 24 0.14 part in solvents to 30 μ , top-coated with a composition of Viacryl VC 1341 [76364-25-5] (acrylic polymer solution 60% solids) 62.5, Maprenal MF 825 17.6, Solvesso 100 19.4, flow modifier 0.5, and 1,2,2,6,6-pentamethyl-4-piperidinyl 3-[3-(2H-benzotriazol-2-yl)-4-hydroxy-5-methylphenyl]propionate (I) [76297-07-9] 1 part to 35-40 μ and baked 30 min at 130° to form a coating having color number change (yellow and blue) after 1200 h of outdoor exposure 9.5, gloss before and after 1200 h of outdoor exposure 98 and 90%, resp., and no change in appearance after 1200 h of outdoor exposure, compared with 16, 97, 16, and cracks and blisters, resp., for a similar coating without I.

IT 76297-07-9

RL: USES (Uses)

(light stabilizers, for acrylic and alkyd coatings)

RN 76297-07-9 CAPLUS

CN Benzenepropanoic acid, 3-(2H-benzotriazol-2-yl)-4-hydroxy-5-methyl-, 1,2,2,6,6-pentamethyl-4-piperidinyl ester (9CI) (CA INDEX NAME)

